Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

TITLE V, SYNTHETIC MINOR DRAFT PERMIT NO. V-03-039
JIM BEAM BRANDS CO.
CLERMONT, KY.
MARCH 11, 2004
Herbert Campbell, REVIEWER
PLANT I.D. # 21-029-00005
APPLICATION LOG # 55910

SOURCE DESCRIPTION AND CONTROL EQUIPMENT:

The source is a distillery that makes distilled spirits. Grain is unloaded and conveyed to hammermills where it is ground. The grain is fed into mash cookers along with water, and the grain starches are converted to sugars by heating. The cooked grain/water mixture is fed into fermenter vessels as a batch operation to convert the sugars to ethanol. After an appropriate residence time, the mixture is processed through distillation columns and condensers. The condensed liquid is fed to spirits tanks and then gauged at the cistern tanks prior to barrel filling. The spent stillage is then dried with a ring dryer and put into a storage room. Whiskey from the cistern tanks is put into barrels until the appropriate age is reached. The barrels are then gravity dumped, rolled, and rinsed at the dumping station. After dumping, the whiskey is fed to the regauge tanks, where it may be processed and sent to be loaded for shipment.

E. Unit 01: Grain handling operations (truck unloading receiving hopper, conveyors , drag-chain & screw), bucket elevators, and storage silos equipped with enclosures, or bagfilters, and unpaved roads equipped with wet suppression equipment commenced construction between 1940 and 1974.

E. Unit 02: Fermentation process commenced construction in 1974.

E. Unit 03: Grain dryer equipped with a cyclone collector and wet scrubber and commenced construction in 1970.

E. Unit 04: Storage Silos cyclone equipped with a baghouse and commenced construction in 1990.

E. Unit 05: Barrel filling, aging, and dumping commenced construction in 1936.

E. Unit 06: Holding & Bottling Tanks and pipeline peripheral equipment and components commenced construction in 1940.

E. Unit 07: 95.2 mmBTU/hr horizontally opposed natural gas fired indirect heat exchanger equipped with low NOx burners and flue gas recirculation commenced construction in 1970.

E. Unit 08: 99 mmBTU/hr spreader-stoker coal fired indirect heat exchanger equipped with a baghouse and commenced construction in 1985.

E. Unit 09: 25.1 mmBTU/hr horizontally opposed natural gas fired indirect heat exchanger equipped with a baghouse and commenced construction in 1986.

E. Unit 10: Wastewater treatment system commenced construction in 1989.

REGULATION APPLICABILITY:

All the applicable regulations to the emission units are listed in the permit. The following regulations are not applicable based on the applicability date of regulation or unit size:

Regulations not applicable to Emissions Units 07, 08 and 09 due to applicability date and/or size of unit:

401 KAR 60:005, Standards of performance for industrial-commercial-institutional steam generating units, incorporating by reference Title 40 CFR, Part 60, Subpart Db, applicable to an emissions unit of greater than 100 mmBTU/hr and constructed after June 19,1984.

401 KAR 60:005, Standards of performance for small industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR Part 60, Subpart Dc, applicable to an emissions unit with a design capacity of 100 mmBTU/hr or less and greater than or equal to 10 mmBTU/hr and constructed after June 9, 1989.

Regulation not applicable to Emission Unit 02 due to applicability date:

401 KAR 60:005, Standards of performance for equipment leaks of VOC in the synthetic organic chemicals manufacturing industry, incorporating by reference 40 CFR 60.482, Subpart VV, applicable to VOC leaks in affected facilities that commenced construction or modification after January 5, 1981.

CONDITIONS PERTAINING TO THE NON-APPLICABILITY OF PSD:

According to 401 KAR 51:017, Prevention of Significant Deterioration (PSD), a "major stationary source" is any source type belonging to a list of source categories which emits or has the potential to emit 100 tons per year or more of any pollutant subject to regulation under the Clean Air Act, or any other source type which emits or has the potential to emit such pollutants in amounts equal to or greater than 250 tons per year. Distilleries are not among the listed source categories, so the major source threshold for Jim Beam Brands Company, Inc. is 250 tons per year. Fugitive VOC emissions are not included in Jim Beam Brands Potential to Emit for PSD purposes, since PSD regulation excludes fugitive emissions from determining potential emissions at sources not included in the list of source categories. Therefore, in order to avoid applicability of 401 KAR 51:017, PSD, the permittee has requested a renewal of their Title V synthetic minor operating permit limiting the emissions below 245 tons for sulfur dioxide (SO_2) and below 10 tons for any single hazardous air pollutant (HAP). Potential to emit calculations were based on 8760 hours of operation per year.

COMMENTS (INCLUDING EMISSION AND OPERATING CAPS):

?? The permittee has not proposed any alternate operating scenarios for any of the emissions units.

?? This permit contains a source wide sulfur dioxide emission cap limit for total sulfur dioxide emissions from all three indirect heat exchangers, Emission Unit 07 (95.2 mmBTU/hr horizontally opposed natural gas fired unit), Emission Unit 08 (99 mmBTU/hr spreader stoker coal fired unit), and Emission Unit 09 (25.1 mmBTU/hr horizontally opposed natural gas fired unit). Sulfur dioxide emissions shall not exceed 245 tons in any twelve (12) consecutive months. This annual limitation is being imposed to preclude the existing source from being considered major as defined in 401 KAR 51:017 (Prevention of Significant Deterioration of Air Quality).

?? The permittee may ensure compliance with the emissions limitations and standards conditioned within the permit for Emission Units 07, 08, & 09 by performing the calculations based upon heat and sulfur content, fuel usage and processing rates, and emission factor information. Additionally, the permittee is required to monitor the fuel consumption rates, processing rates, and operation of each respective unit's control equipment used to control emissions.

?? The permittee will be required to conduct one particulate matter mass emission performance test for emissions unit 08 to demonstrate compliance with allowable particulate matter mass emission standard once within the term of this permit.

?? Emission unit 01 is subject to 401 KAR 63:010, Fugitive emissions and is considered to be in compliance when using control measures required by regulation.

?? The three-hour averaging time associated with the particulate matter mass emission standards for emissions units 03, 07, 08, and 09 are applicable during compliance demonstration when performance tests are required by the Division.

?? Emission Unit 03 is equipped with a wet scrubber to control emissions of particulate matter.

?? No applicable regulations apply to Emission Units 02, 05, 06, and 10; however, the permittee is required to monitor processing & production rates and hours of operation due to the emissions potential of each designated unit.

?? Any indirect heat exchanger burning natural gas is considered to be in compliance with PM, SO_2 and opacity standard.

?? For Emission unit 03, Emission factor for PM emissions is 0.356 lbs/ton, controlled emission factor from most recent stack test.

?? For Emission unit 08, Emission factor for PM emissions is 0.34 lbs/ton, based on uncontrolled emission factor (66 lbs/ton) from AP-42 and control efficiency of 99.5% .

?? For Emission unit 01, (01-002) Grain conveyors, drag conveyors and bucket elevator (screw conveyors) were replaced for operation at 2500 BPH. Since these are furtherest downstream in the grain handling system and the upstream truck unloading system conveyors will not be modified, the new equipment will not represent a significant change to the overall system capacity and no change in emission limits.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.